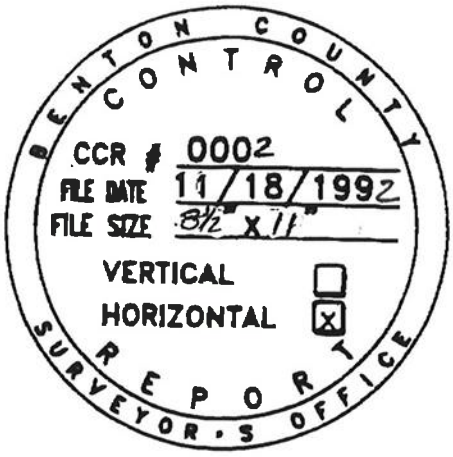
BENTON COUNTY
CONTROL
CCR # 0002
FILE DATE 11/18/1992
FILE SIZE 8½" x 11"
VERTICAL
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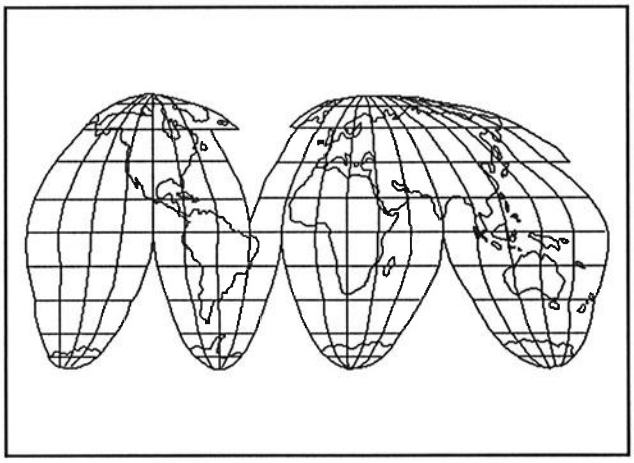
SURVEYOR'S OFFICE
REPORT

ORIGINAL

BENTON COUNTY
GPS CONTROL STATONS



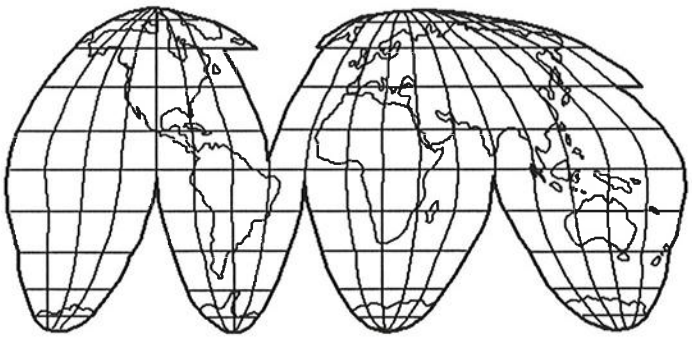
As Established By The Oregon State Office
Geodetic Control Unit
Bureau of Land Management

1985 - 1995

CONTROL DATA

BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT
1992

BENTON COUNTY



CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:	WREN 20 OFFSET	NAD 83(1986) DATA	
EC NUMBER:	41036	ADJUSTMENT SOFTWARE:	GEOLAB V. 5.22
COUNTY:	BENTON	GEOID COMPUTATION:	RAPP 180
STATE:	OR	LATITUDE:	44 30 17.45329
BLM DISTRICT:	SALEM	LONGITUDE:	123 28 27.86943
BLM RESOURCE AREA:	SIUSLAW NF	ELLIPSOID HEIGHT:	326.218 m
LOCATION:	T12.00S,R6.00W,SEC.30	GEOID SEPARATION:	-21.605 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	347.823 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123133	SEMI-MAJOR:	0.494 m
USGS 7 1/2' QUAD:	WREN	SEMI-MINOR:	0.113 m
USGS 15' QUAD:		AXIS AZIMUTH:	91.550
GROUP NUMBER:	----	VERTICAL:	0.136 m
DATE OCCUPIED:	08/09/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 30 18.01970
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 28 23.49840

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Set a 3/4 in. diam. finned aluminum rod, 36 ins. long, 36 ins. in the ground, and in a 4 in. diam. PVC pipe, 12 ins. long, filled with gravel, with a 3 1/4 in. diam. aluminum BLM control survey cap marked:

EC 41036

GPS 1989

Set an orange carsonite witness post alongside the monument.

HOW TO REACH: From the junction of U.S. Hwy. 20 and State Hwy. 34, proceed SW on State Hwy. 34.

3.6 Entrance to the Corvallis Watershed, turn right and proceed NW on entrance road.
0.15 T-intersection, turn left and proceed west through LOCKED GATE (permission to pass obtained from the City of Corvallis).
0.7 Junction with Franklin Ridge Rd., do not turn, proceed west on same road.
0.1 Y-junction at a house and barn, turn right and proceed north.
0.3 Y-junction, turn right and proceed north.
0.1 Y-junction, turn left and proceed west on main road.
0.25 Y-junction, turn left and proceed west on Road No. 3406.
0.25 Y-junction, turn left and proceed.
1.2 From this point the Station Mark is 20 ft. south of the road and approx. 200 ft. east of the end of the road.

CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:	MARY PK. 20 OFFSET	NAD 83(1986) DATA	
EC NUMBER:	41029	ADJUSTMENT SOFTWARE:	GEOLAB V. 5.22
COUNTY:	BENTON	GEOID COMPUTATION:	RAPP 180
STATE:	OR	LATITUDE:	44 31 11.66171
BLM DISTRICT:	SALEM	LONGITUDE:	123 32 10.84982
BLM RESOURCE AREA:	SIUSLAW NF	ELLIPSOID HEIGHT:	582.417 m
LOCATION:	T12.00S,R7.00W,SEC.21	GEOID SEPARATION:	-21.665 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	604.082 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123422	SEMI-MAJOR:	0.466 m
USGS 7 1/2' QUAD:	MARY'S PEAK	SEMI-MINOR:	0.108 m
USGS 15' QUAD:		AXIS AZIMUTH:	90.830
GROUP NUMBER:	----	VERTICAL:	0.126 m
DATE OCCUPIED:	08/09/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 31 12.22990
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 32 6.47220

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Set a 3/4 in. diam., finned aluminum rod, 72 ins. long, 72 ins. in the ground, and in a 4 in. diam. PVC pipe, 12 ins. long, filled with gravel, with a 3 1/4 in. diam. aluminum BLM control survey cap marked:

EC 41029

GPS 1989

Set an orange carsonite witness post alongside the monument.

HOW TO REACH: From the junction of U.S. Hwy 20 and State Hwy 34, proceed west on Hwy 34.

9.0 Junction with Mary's Peak Road (U.S.F.S. Rd. No. 30), turn right and proceed on Rd. No. 30.

5.5 Junction with U.S.F.S. Rd. No. 2005, turn right and proceed through LOCKED GATE for Mary's Peak Municipal Watershed(key obtained from USFS or City of Corvallis).

2.0 Junction with U.S.F.S. Rd. No. 3410 and LOCKED GATE, end of truck travel. From the gate, the Station Mark bears N. 20 E., approx. 600 ft. dist.

CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:	MARY PEAK 19 OFFSET	NAD 83(1986) DATA	
EC NUMBER:	41028	ADJUSTMENT SOFTWARE:	GEOLAB V. 5.22
COUNTY:	BENTON	GEOID COMPUTATION:	RAPP 180
STATE:	OR	LATITUDE:	44 31 11.26667
BLM DISTRICT:	SALEM	LONGITUDE:	123 35 47.70965
BLM RESOURCE AREA:	SIUSLAW NF	ELLIPSOID HEIGHT:	447.723 m
LOCATION:	T12.00S,R8.00W,SEC.24	GEOID SEPARATION:	-21.732 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	469.455 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123422	SEMI-MAJOR:	0.436 m
USGS 7 1/2' QUAD:	MARY'S PEAK	SEMI-MINOR:	0.124 m
USGS 15' QUAD:		AXIS AZIMUTH:	79.360
GROUP NUMBER:	----	VERTICAL:	0.175 m
DATE OCCUPIED:	08/09/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 31 11.83620
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 35 43.32630

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Set a 3/4 in. diam. finned aluminum rod, 72 ins. long, 72 ins. in the ground, and in a 4 in. diam., PVC pipe, 12 ins. long, filled with gravel, with an aluminum BLM control survey cap mkd.

EC 41028

GPS 1989

Set an orange carsonite witness post 3 ft. south of the monument.

HOW TO REACH: From the junction of U.S. Hwy 20 and State Hwy 34 (1 mile west of Philomath, Or.) proceed southwest on State Hwy 34.

8.3 Turn Right onto Mary's Peak Rd. (U.S.F.S. Road No. 30).
5.0 At this point, Mary's Peak Rd. and U.S.F.S Rd. No. 30 separate. Turn left onto U.S.F.S. Rd. No. 30.
2.1 Junction with BLM Rd. 12-7-30, continue on U.S.F.S. Rd. No. 30.
0.6 Junction with BLM Rd. 12-7-30.2, turn right onto 12-7-30.2 (This is also U.S.F.S. Rd. No. 3000-117).
0.5 Junction with U.S.F.S. Rd. No. 3000-116, proceed on road 12-7-30.2.
1.1 Point at which road intersects the section line between sections 13 and 18. From this point the Station Mark is located approx. 410 ft. south.

CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:	DLC 44 SW CORNER	NAD 83(1986) DATA	
EC NUMBER:	80203014S08W	ADJUSTMENT SOFTWARE:	GEOLAB V. 5.22
COUNTY:	BENTON	GEOID COMPUTATION:	RAPP 180
STATE:	OR	LATITUDE:	44 21 48.28412
BLM DISTRICT:	SALEM	LONGITUDE:	123 35 47.02885
BLM RESOURCE AREA:	ALSEA	ELLIPSOID HEIGHT:	71.008 m
LOCATION:	T14.00S,R8.00W,SEC.12	GEOID SEPARATION:	-21.852 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	92.860 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123312	SEMI-MAJOR:	0.588 m
USGS 7 1/2' QUAD:	PRAIRIE PEAK	SEMI-MINOR:	0.193 m
USGS 15' QUAD:		AXIS AZIMUTH:	97.710
GROUP NUMBER:	----	VERTICAL:	0.219 m
DATE OCCUPIED:	08/09/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 21 48.84860
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 35 42.65200

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Found a 2 1/2 in. diam. iron pipe projecting 6 ins. above the ground with a 3 1/4 in. diam. Benton County brass cap marked:

DLC 44
SSW G RYCRAFT
| DLC 44

DLC 43
T14S R8W
1987

HOW TO REACH: Not available.

CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:	PRAIRIE PK 13 OFFSET	NAD 83(1986) DATA	
EC NUMBER:	41035	ADJUSTMENT SOFTWARE:	GEOLAB V. 5.22
COUNTY:	BENTON	GEOID COMPUTATION:	RAPP 180
STATE:	OR	LATITUDE:	44 18 10.25669
BLM DISTRICT:	SALEM	LONGITUDE:	123 37 33.56072
BLM RESOURCE AREA:	ALSEA	ELLIPSOID HEIGHT:	365.196 m
LOCATION:	T14.00S,R8.00W,SEC.35	GEOID SEPARATION:	-21.972 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	387.168 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123312	SEMI-MAJOR:	0.591 m
USGS 7 1/2' QUAD:	DIGGER MTN.	SEMI-MINOR:	0.194 m
USGS 15' QUAD:		AXIS AZIMUTH:	97.490
GROUP NUMBER:	----	VERTICAL:	0.220 m
DATE OCCUPIED:	08/09/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 18 10.81980
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 37 29.18360

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Set a 3/4 in. diam. finned aluminum rod, 72 ins. long, 72 ins. in the ground, and in a 4 in. diam., PVC pipe, 12 ins. long, filled with gravel, with a 3 1/4 in. diam. aluminum BLM control survey cap marked:

EC 41035

GPS 1989

Set an orange carsonite witness post alongside.

HOW TO REACH: From Alsea, OR. proceed south on Lobster Valley Rd.

6.7 Little Lobster Summit and junction of road to the left, turn left onto road and proceed SE along road.

0.85 From this point the Station Mark is approx. 330 ft. north of the road, along a ridge bearing NE - SW.

Total driving time is 25 min.

CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:	FIVE RIV. 10 OFFSET	NAD 83(1986) DATA	
EC NUMBER:	41037	ADJUSTMENT SOFTWARE:	GEOLAB V. 5.22
COUNTY:	BENTON	GEOID COMPUTATION:	RAPP 180
STATE:	OR	LATITUDE:	44 19 51.10352
BLM DISTRICT:	SALEM	LONGITUDE:	123 45 8.38686
BLM RESOURCE AREA:	SIUSLAW NF	ELLIPSOID HEIGHT:	394.681 m
LOCATION:	T14.00S,R9.00W,SEC.26	GEOID SEPARATION:	-22.166 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	416.847 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123342	SEMI-MAJOR:	0.555 m
USGS 7 1/2' QUAD:	FIVE RIVERS	SEMI-MINOR:	0.186 m
USGS 15' QUAD:		AXIS AZIMUTH:	85.420
GROUP NUMBER:	----	VERTICAL:	0.239 m
DATE OCCUPIED:	08/09/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 19 51.67020
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 45 3.99660

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Set a 3/4 in. diam. finned aluminum rod, 72 ins. long, 72 ins. in the ground, and in a 4 in. diam. PVC pipe, 12 ins. long, filled with gravel, with a 3 1/4 in. diam. aluminum BLM control survey cap marked:

EC 41037

GPS 1989

Set an orange carsonite witness post 3 ft. south of the monument.

HOW TO REACH: From the U.S.F.S. Ranger Station at Alsea, OR. proceed west on State Hwy. 34.

8.6 Missouri Bend Recreation Site, proceed on Hwy. 34.
0.6 Junction with Benner Creek Rd, turn left and proceed across bridge on Benner Creek Rd.
0.1 Junction with U.S.F.S. Rd. No. 3412, turn right and proceed on Rd. 3412.
2.3 Junction with Rd. No. 3310-112, turn left and proceed on 3310-112.
1.2 Junction with Rd. No. 3310-113, turn left and proceed through a LOCKED GATE. Call the Alsea Ranger Station at 503-487-5811 for information about access. Continue on Rd. 3310-113 for approx. 250 ft., station mark is 30 ft. east of the road along a ridge.

Total driving time is 25 minutes.

CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:	FIVE RIV. 9 OFFSET	NAD 83(1986) DATA	
EC NUMBER:	41034	ADJUSTMENT SOFTWARE:	GEOLAB V. 5.22
COUNTY:	BENTON	GEOID COMPUTATION:	RAPP 180
STATE:	OR	LATITUDE:	44 19 46.82657
BLM DISTRICT:	SALEM	LONGITUDE:	123 47 47.18524
BLM RESOURCE AREA:	SIUSLAW NF	ELLIPSOID HEIGHT:	23.710 m
LOCATION:	T14.00S,R9.00W,SEC.28	GEOID SEPARATION:	-22.247 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	45.957 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123342	SEMI-MAJOR:	0.558 m
USGS 7 1/2' QUAD:	FIVE RIVERS	SEMI-MINOR:	0.191 m
USGS 15' QUAD:		AXIS AZIMUTH:	85.580
GROUP NUMBER:	----	VERTICAL:	0.247 m
DATE OCCUPIED:	08/09/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 19 47.39420
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 47 42.79080

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Set a 3/4 in. diam. finned aluminum rod, 36 ins. long, 36 ins. in the ground, and in a 4 in. diam. PVC pipe, 12 ins. long, filled with gravel, with a 3 1/4 in. diam. aluminum BLM control survey cap mkd.

EC 41034

GPS 1989

Set an orange carsonite witness post, 2 ft. south of the monument. The monument is located 178 ft. south of Lobster Valley Rd and 1 ft. east of a barbed wire fence, which bears N - S.

HOW TO REACH: From the junction of Five Rivers Rd. and State Hwy 34, approximately 20 miles west of Alsea, Or., proceed easterly, then southerly on Five Rivers Rd.

3.2 Junction with Lobster Valley Rd., turn left and proceed east on Lobster Valley Rd.

2.4 From this point the Station Mark is located approx. 180 ft. south of the road, along a barbed wire fenceline, bearing N - S.

CONTROL DATA SHEET
by
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
BRANCH OF CADASTRAL SURVEY
CONTROL SURVEY UNIT

STATION NAME:		NAD 83(1986) DATA	
EC NUMBER:	41018	ADJUSTMENT SOFTWARE:	MOTOROLA Rev.D
COUNTY:	BENTON	GEOID COMPUTATION:	GEOID 90 V.1.00
STATE:	OR	LATITUDE:	44 16 57.74140
BLM DISTRICT:	EUGENE	LONGITUDE:	123 24 35.38020
BLM RESOURCE AREA:	COAST RANGE	ELLIPSOID HEIGHT:	0.000 m
LOCATION:	T15.00S,R6.00W,SEC.10	GEOID SEPARATION:	-21.040 m
MERIDIAN:	WILLAMETTE	MSL ELEV (1929):	401.500 m
MAPPING REFERENCES:		ERROR ELLIPSE (95%)	
QID:	44123243	SEMI-MAJOR:	0.000 m
USGS 7 1/2' QUAD:	GLENBROOK	SEMI-MINOR:	0.000 m
USGS 15' QUAD:	MONROE	AXIS AZIMUTH:	0.000
GROUP NUMBER:		VERTICAL:	0.000 m
DATE OCCUPIED:	07/24/89	NAD 27 DATA	
METHOD:	GPS:STATIC:CARRIER PHASE	DERIVATION:	ADJUSTED
RECEIVER TYPE:	MOTOROLA EAGLE	LATITUDE:	44 16 58.31000
BASELINE SOFTWARE:	MOTOROLA Rev. E	LONGITUDE:	123 24 31.02000

NOTE: Please send updated recovery information to: Control Survey Unit, Branch of Cadastral Survey, Bureau of Land Management, P.O. Box 2965, Portland, Oregon, 97208. (503)280-7133

All distances in "HOW TO REACH" description are in miles, unless otherwise noted.

DESCRIPTION: Set a 27" x 3/4" finned aluminum rod, 27 ins. in the ground, in a circle of concrete, 18 ins. in diam., with a 3 1/4 in. diam. aluminum BLM control survey cap marked:

EC 41018

GPS 1989

Set an orange carsonite post alongside.

HOW TO REACH: Beginning at the corner of 5th (Hwy. 99) and Orchard (Cook Road) in Monroe, Or., proceed west on Orchard Road.

3.6 Junction with Bellfountain Road, turn left onto Bellfountain and proceed.
0.5 The corner of Cherry and Nickels Roads, turn right onto Nickels Road and proceed.
0.6 Junction with Hewett Road, take right and stay on Nickels Road.
1.1 Red Barn Mailbox (21483 Nickels Rd.), continue.
0.2 Turn left on a gravel road and proceed.
2.1 Turn left on a track road and proceed.
0.2 Pass between a gravel pit and the highest point of a knob. Above the gravel pit is EC 41018.

The Control Data Sheets are organized and bound by increasing township and range. They contain essential information on each point including position, datum, description, and how-to-reach instructions. Positional tolerance data is given when available.

If desired, the information is available on PC disks in either ASCII or dBASE IV format. If you have dBASE IV, you can search the data base by township and range, quad map, parameters of latitude of longitude, or information in any of the data base fields.

For further information, comments, or suggestions, contact Ken Bays, Geodesist, Branch of Cadastral Survey and Mapping Sciences (OR942), at 280-7135.

Sincerely,

Wayne M. Gardner

Wayne M. Gardner
Chief, Branch of Cadastral Survey
and Mapping Sciences

Enclosures as noted

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Oregon State Office
P.O. Box 2965 (1300 N.E. 44th Avenue)
Portland, Oregon 97208

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

9625.13 (942)

October 29, 1992

Danna L. Barnhart
360 S.W. Avery Ave.
Corvallis, Oregon 97333

Dear Ms. Barnhart:

Enclosed are printouts of Control Data Sheets for Geodetic Control established using satellite surveying methods by the Branch of Cadastral Survey and Mapping Sciences, Oregon State Office, Bureau of Land Management. Updates will be sent after data from the 1992 field season is entered and then annually.

From 1985 to 1988, we used Doppler Transit Satellite positioning with Magnavox MX-1502 Geoceivers for our geodetic positioning.

In 1988, we started performing NAVSTAR Global Positioning System surveys using Motorola Golden Eagle GPS receivers. These receivers used triple difference baseline processing methods and could not yield the accuracies of systems using double difference baseline processing. Data sheets for stations established with the Motorola receivers before August 1989, do not show any error ellipses because the Motorola adjustment software which we used until then, did not provide error ellipses. After August 1989, we used GEOLAB least squares adjustment software to adjust our GPS surveys and generate positional tolerance data. Most projects performed with the Motorola Eagles were for the purpose of acquiring horizontal coordinates only and no ties to vertical benchmarks were performed.

For projects requiring greater accuracy than that of the Motorola Eagles, we have used Trimble 4000ST and Ashtech M-XII receivers. These projects reflect the much greater accuracy of double difference baseline processing. The vertical accuracy of projects performed with the Trimble and Ashtech receivers is also higher because we made ties to benchmarks during those projects.

The Branch of Cadastral Survey and Mapping Sciences recently purchased Trimble 4000SSE fast-static dual frequency receivers which will increase the speed and accuracy of our GPS surveys in the future.

RECEIVED
PUBLIC WORKS

NOV 0 1 1992

SENT TO Danna